

THOMAS TAY

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EDUCATION

UNIVERSITY OF MICHIGAN

B.S. Computer Science, B.S. Honors Mathematics

Ann Arbor, MI

Expected: May 2020

GPA: 3.9/4.0 - Awarded EECS Scholar (2019) for academic excellence in Computer Science.

Course Highlights: Distributed Systems (491), Operating Systems (482), Computer Security (388), Applied GPU programming, Data Structures & Algorithms (281), Probability & Statistics, Honors Linear Algebra (MATH 296).

WORK EXPERIENCE

MICROSOFT

Software Engineering Intern – MS Teams

Seattle, WA

May 2019 – Aug 2019

Software engineer on Teams, a Slack-like single page web app using *Angular*, *React* and *Node*.

Designed and implemented a brand-new feature to lock replies to a thread, and a feature to remotely refresh a user's cache based on their geographical location.

- Enforced locking on the backend, using server-side validation to ensure locked threads are not replied to.
- Improved delivery rate of messages to users, by automating local cache refresh on server change.
- Prevented fragmentation of information across threads to enhance focus during emergencies.
- Locked threads after a monthly promotion ended, improved app experience for retail Teams users.

UNIVERSITY OF MICHIGAN – EECS 203 DISCRETE MATH

Instructional Assistant

Ann Arbor, MI

Aug 2018 – Present

Exam management team lead for my University's Discrete Math course.

- Organized and reviewed all exam questions for over 800 students, making sure exams were appropriate.
- Created lesson plans that aligned with University standards for a class of over 30 students.

SINGAPORE ARMED FORCES (SERGEANT)

3rd Sergeant - Transportation Command HQ

Singapore

Feb 2015 – Feb 2017

- Led a unit of 50+ soldiers on transportation missions, including replenishments of mission critical supplies, ensuring mission readiness through training of personnel for the job.
- Maintained morale and discipline by upholding leadership standards and punishing defaulters.

COMPUTER SCIENCE PROJECTS

FACEBOOK FOR MICROSOFT TEAMS

(2019)

Built an aggregated newsfeed that pulls together all a user's recent likes, at-mentions and comments.

- Sped up user reply time 200% by eliminating the need to switch channels between replies.
- Facilitated quick dives into a channel by dynamically updating the webpage in Angular.
- Optimized speed by synchronizing reply chain objects across the server, local storage, and memory cache.

FAILURE-TOLERANT DISTRIBUTED SYSTEM

(2019)

Designed and wrote a replicated state machine using Primary-Backup replication.

- Tolerant to any failures in the primary and backups, restoring any failed machine to the last good state.
- Ensured 100% correctness by randomizing the system under a variety of failure conditions.

INSTAGRAM POST AUTO-SCHEDULER

(2018)

Made a full-stack web app using Python Flask and Bootstrap.

- Allowed users to schedule Instagram posts at a specific time, also automating liking and following.
- Persisted users' schedules by using SQLite as a lightweight backend database.

CS Skills

Expert: C++, Python, Typescript **Worked with:** C#, Go, F#, Bash, Rust

Frameworks Angular, React, Node, Electron, Git, Docker, CMake, Flask, .NET, Giraffe (F#)

For Fun

Ballroom Dancing, Raspberry Pi, Functional Programming